FIGURE 1

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ATTCCTCTTCATAATGCATGCTCTTTTGGTCATGCTGAAGTAGTCAATCTCCTTTTGCGACATGGTGCAG   70
 I  P  L  H  N  A  C  S  F  G  H  A  E  V  V  N  L  L  L  R  H  G  A

ACCCCAATGCTCGAGATAATTGGAATTATACTCCTCTCCATGAAGCTGCAATTAAAGGAAAGATTGATGT   140
 D  P  N  A  R  D  N  W  N  Y  T  P  L  H  E  A  A  I  K  G  K  I  D  V

TTGCATTGTGCTGTTACAGCATGGAGCTGAGCCAACCATCCGAAATACAGATGGAAGGACAGCATTGGAT   210
  C  I  V  L  L  Q  H  G  A  E  P  T  I  R  N  T  D  G  R  T  A  L  D

TTAGCAGATCCATCTGCCAAAGCAGTGCTTACTGGTGAATATAAGAAAGATGAACTCTTAGAAAGTGCCA   280
 L  A  D  P  S  A  K  A  V  L  T  G  E  Y  K  K  D  E  L  L  E  S  A

GGAGTGGCAATGAAGAAAAAATGATGGCTCTACTCACACCATTAAATGTCAACTGCCACGCAAGTGATGG   350
 R  S  G  N  E  E  K  M  M  A  L  L  T  P  L  N  V  N  C  H  A  S  D  G

CAGAAAGTCAACTCCATTACATTTGGCAGCAGGATATAACAGAGTAAAGATTGTACAGCTGTTACTGCAA   420
  R  K  S  T  P  L  H  L  A  A  G  Y  N  R  V  K  I  V  Q  L  L  L  Q

CATGGACGTGATGTCCATGCTAAAGATAAAGGTGATCTGGTACCATTACACAATGCCTGTTCTTATGGTC   490
 H  G  R  D  V  H  A  K  D  K  G  D  L  V  P  L  H  N  A  C  S  Y  G

ATTATGAAGTAACTGAACTTTTGGTCAAGCATGGTGGCTGTGTAAATGCAATGGACTTGTGGCAATTCAC   560
 H  Y  E  V  T  E  L  L  V  K  H  G  G  C  V  N  A  M  D  L  W  Q  F  T

TCCTCTTCATGAGGCAGCTTCTAAGAACAGGGTTGAAGTATGTTCTCTTCTCTTAAGTTATGGTGCAGAC   630
  P  L  H  E  A  A  S  K  N  R  V  E  V  C  S  L  L  L  S  Y  G  A  D

CCAACACTGCTCAATTGTAAGAATAAAAGTGCTATAGACTTGGCTCCCACACCACAGTTAAAAGAAAGAT   700
  P  T  L  L  N  C  K  N  K  S  A  I  D  L  A  P  T  P  Q  L  K  E  R

TAGCATATGAATTTAAAGGCCACTCGTTGCTGCAAGCTGCACGAGAAGCTGATGTTACTCGAATCAAAAA   770
 L  A  Y  E  F  K  G  H  S  L  L  Q  A  A  R  E  A  D  V  T  R  I  K  K

ACATCTCTCTCTGGAAATGGTGAATTTCAAGCATCCTCAAACACATGAAACAGCATTGCATTGTGCTGCT   840
   H  L  S  L  E  M  V  N  F  K  H  P  Q  T  H  E  T  A  L  H  C  A  A

GCATCTCCATATCCCAAAAGAAAGCAAATATGTGAACTGTTGCTAAGAAAAGGAGCAAACATCAATGAAA   910
 A  S  P  Y  P  K  R  K  Q  I  C  E  L  L  L  R  K  G  A  N  I  N  E

AGACTAAAGAATTCTTGACTCCTCTGCACGTGGCATCTGAGAAAGCTCATAATGATGTTGTTGAAGTAGT   980
 K  T  K  E  F  L  T  P  L  H  V  A  S  E  K  A  H  N  D  V  V  E  V  V

GGTGAAACATGAAGCAAAGGTTAATGCTCTGGATAATCTTGGTCAGACTTCTCTACACAGAGCTGCATAT   1050
  V  K  H  E  A  K  V  N  A  L  D  N  L  G  Q  T  S  L  H  R  A  A  Y

TGTGGTCATCTACAAACCTGCCGCCTACTCCTGAGCTATGGGTGTGATCCTAACATTATATCCCTTCAGG   1120
  C  G  H  L  Q  T  C  R  L  L  L  S  Y  G  C  D  P  N  I  I  S  L  Q

GCTTTACTGCTTTACAGATGGGAAATGAAATGTACAGCAACTCCTCCAAGAGGGTATCTCATTAGGTAA   1190
 G  F  T  A  L  Q  M  G  N  E  N  V  Q  Q  L  L  Q  E  G  I  S  L  G  N

TTCAGAGGCAGACAGACAATTGCTGGAAGCTGCAAAGGCTGGAGATGTCGAAACTGTAAAAAAACTGTGT   1260
  S  E  A  D  R  Q  L  L  E  A  A  K  A  G  D  V  E  T  V  K  K  L  C

ACTGTTCAGAGTGTCAACTGCAGAGACATTGAAGGGCGTCAGTCTACACCACTTCATTTTGCAGCTGGGT   1330
 T  V  Q  S  V  N  C  R  D  I  E  G  R  Q  S  T  P  L  H  F  A  A  G

ATAACAGAGTGTCCGTGGTGGAATATCTGCTACAGCATGGAGCTGATGTGCATGCTAAAGATAAAGGAGG   1400
 Y  N  R  V  S  V  V  E  Y  L  L  Q  H  G  A  D  V  H  A  K  D  K  G  G

CCTTGTACCTTTGCACAATGCATGTTCTTACGGACATTATGAAGTTGCAGAACTTCTTGTTAAACATGGA   1470
 L  V  P  L  H  N  A  C  S  Y  G  H  Y  E  V  A  E  L  L  V  K  H  G

GCAGTAGTTAATGTAGCTGATTTATGGAAATTTACACCTTTACATGAAGCAGCAGCAAAAGGAAAATATG   1540
 A  V  V  N  V  A  D  L  W  K  F  T  P  L  H  E  A  A  A  K  G  K  Y

AAATTTGCAAACTTCTGCTCCAGCATGGTGCAGACCCTACAAAAAAAAACAGGGATGGAAATACTCCTTT   1610
 E  I  C  K  L  L  L  Q  H  G  A  D  P  T  K  K  N  R  D  G  N  T  P  L
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GGATCTTGTTAAAGATGGAGATACAGATATTCAAGATCTGCTTAGGGGAGATGCAGCTTTGCTAGATGCT   1680
 D  L  V  K  D  G  D  T  D  I  Q  D  L  L  R  G  D  A  A  L  L  D  A

GCCAAGAAGGGTTGTTTAGCCAGAGTGAAGAAGTTGTCTTCTCCTGATAATGTAAATTGCCGCGATACCC   1750
 A  K  K  G  C  L  A  R  V  K  K  L  S  S  P  D  N  V  N  C  R  D  T

AAGGCAGACATTCAACACCTTTACATTTAGCAGCTGGTTATAATAATTTAGAAGTTGCAGAGTATTTGTT   1820
 Q  G  R  H  S  T  P  L  H  L  A  A  G  Y  N  N  L  E  V  A  E  Y  L  L

ACAACACGGAGCTGATGTGAATGCCCAAGACAAAGGAGGACTTATTCCTTTACATAATGCAGCATCTTAC   1890
 Q  H  G  A  D  V  N  A  Q  D  K  G  G  L  I  P  L  H  N  A  A  S  Y

GGGCATGTAGATGTAGCAGCTCTACTAATAAAGTATAATGCATCTCTCAATGCCACGGACAAATGGGCTT   1960
 G  H  V  D  V  A  A  L  L  I  K  Y  N  A  S  L  N  A  T  D  K  W  A

TCACACCTTTGCACGAAGCAGCCCAAAAGGGACGAACACAGCTTTGTGCTTTGTTGCTAGCCCATGGAGC   2030
 F  T  P  L  H  E  A  A  Q  K  G  R  T  Q  L  C  A  L  L  A  H  G  A

TGACCCGACTCTTAAAAATCAGGAAGGACAAACACCTTTAGATTTAGTTTCAGCAGATGATGTCAGCGCT   2100
 D  P  T  L  K  N  Q  E  G  Q  T  P  L  D  L  V  S  A  D  D  V  S  A

CTTCTGACAGCAGCCATGCCCCCATCTGCTCTGCCCTCTTGTTACAAGCCTCAAGTGCTCAATGGTGTGA   2170
 L  L  T  A  A  M  P  P  S  A  L  P  S  C  Y  K  P  Q  V  L  N  G  V

GAAGCCCAGGAGCCACTGCAGATGCTCTCTCTTCAGGTCCATCTAGCCCATCAAGCCTTTCTGCAGCCAG   2240
 R  S  P  G  A  T  A  D  A  L  S  S  G  P  S  S  P  S  S  L  S  A  A  S

CAGTCTTGACAACTTATCTGGGAGTTTTTTCAGAACTGTCTTCAGTAGTTAGTTCAAGTGGAACAGAGGGT   2310
 S  L  D  N  L  S  G  S  F  S  E  L  S  S  V  V  S  S  S  G  T  E  G

GCTTCCAGTTTGGAGAAAAAGGAGGTTCCAGGAGTAGATTTTAGCATAACTCAATTCGTAAGGAATCTTG   2380
 A  S  S  L  E  K  K  E  V  P  G  V  D  F  S  I  T  Q  F  V  R  N  L

GACTTGAGCACCTAATGGATATATTTGAGAGAGAACAGATCACTTTGGATGTATTAGTTGAGATGGGGCA   2450
 G  L  E  H  L  M  D  I  F  E  R  E  Q  I  T  L  D  V  L  V  E  M  G  H

CAAGGAGCTGAAGGAGATTGGAATCAATGCTTATGGACATAGGCACAAACTAATTAAAGGAGTCGAGAGA   2520
 K  E  L  K  E  I  G  I  N  A  Y  G  H  R  H  K  L  I  K  G  V  E  R

CTTATCTCCGGACAACAAGGTCTTAACCCATATTTAACTTTGAACACCTCTGGTAGTGGAACAATTCTTA   2590
 L  I  S  G  Q  Q  G  L  N  P  Y  L  T  L  N  T  S  G  S  G  T  I  L

TAGATCTGTCTCCTGATGATAAAGAGTTTCAGTCTGTGGAGGAAGAGATGCAAAGTACAGTTCGAGAGCA   2660
 I  D  L  S  P  D  D  K  E  F  Q  S  V  E  E  M  Q  S  T  V  R  E  H

CAGAGATGGAGGTCATGCAGGTGGAATCTTCAACAGATACAATATTCTCAAGATTCAGAAGGTTTGTAAC   2730
 R  D  G  G  H  A  G  G  I  F  N  R  Y  N  I  L  K  I  Q  K  V  C  N

AAGAAACTATGGGAAAGATACACTCACCGGAGAAAAGAAGTTTCTGAAGAAAACCACAACCATGCCAATG   2800
 K  K  L  W  E  R  Y  T  H  R  R  K  E  V  S  E  E  N  H  N  H  A  N

AACGAATGCTATTTCATGGGTCTCCTTTTGTGAATGCAATTATCCACAAAGGCTTTGATGAAAGGCATGC   2870
 E  R  M  L  F  H  G  S  P  F  V  N  A  I  I  H  K  G  F  D  E  R  H  A

GTACATAGGTGGTATGTTTGGAGCTGGCATTTATTTTGCTGAAAACTCTTCCAAAAGCAATCAATATGTA   2940
 Y  I  G  G  M  F  G  A  G  I  Y  F  A  E  N  S  S  K  S  N  Q  Y  V

TATGGAATTGGAGGAGGTACTGGGTGTCCAGTTCACAAAGACAGATCTTGTTACATTTGCCACAGGCAGC   3010
 Y  G  I  G  G  G  T  G  C  P  V  H  K  D  R  S  C  Y  I  C  H  R  Q

TGCTCTTTTGCCGGGGTAACCTTGGGAAAGTCTTTCCTGCAGTTCAGTGCAATGAAAATGGCACATTCTCC   3080
 L  L  F  C  R  V  T  L  G  K  S  F  L  Q  F  S  A  M  K  M  A  H  S  P

TCCAGGTCATCACTCAGTCACTGGTAGGCCCAGTGTAAATGGCCTAGCATTAGCTGAATATGTTATTTAC   3150
 P  G  H  H  S  V  T  G  R  P  S  V  N  G  L  A  L  A  E  Y  V  I  Y

AGAGGAGAACAGGCTTATCCTGAGTATTTAATTACTTACCAGATTATGAGGCCTGAAGGTATGGTCGATG   3220
 R  G  E  Q  A  Y  P  E  Y  L  I  T  Y  Q  I  M  R  P  E  G  M  V  D

GATAAATAGTTATTTTAAGAAACTAATTCCACTGAACCTAAAATCATCAAAGCAGCAGTGGCCTCTACGT   3290
 G  *
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TTTACTCCTTTGCTGAAAAAAAATCATCTTGCCCACAGGCCTGTGGCAAAAGGATAAAAATGTGAACGAA 3360

GTTTAACATTCTGACTTGATAAAGCTTTAATAATGTACAG

A

CONSTRUCT	STRUCTURE
N	
C	
N + C	
FL	

B

CONSTRUCT	MEAN RLU (LIQUID ASSAY) ($\times 10^3$)	COLOUR INTENSITY (FILTER ASSAY)
pAS2.1	4	-
N	109	++
C	3	-
N + C	194	++
FL	242	+++

FIGURE 2